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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,752	07/13/2001	Noriyuki Kawano	211402US2	2054
22850	7590	03/02/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ORTIZ CRIADO, JORGE L	
			ART UNIT	PAPER NUMBER
			2656	

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,752

Applicant(s)

KAWANO, NORIYUKI

Examiner

Jorge L. Ortiz-Criado

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/23/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,22-31,42 and 49-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,22-31,42 and 49-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-7, 22-31, 42 and 49-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikegame Japanese Publication. No. 10-116431 in view of Izuka U.S. Patent No. 5,555,228.

Regarding claim 1, Ikegame discloses an objective lens drive apparatus configured to be used in an optical pickup (See Abstract), comprising:

a magnetic circuit comprising a first and second magnets separated from one another by a gap; (See Detailed description [0033]; Figs. 11, 12, ref# 8,9); and

a coil unit comprising a “laminate” structure (See detailed description [0028]; Figs. 12 ref# 23,24) including

a focus coil (See detailed description [0028]; ref # 3),

a tracking coil (See detailed description [0028]; Figs. 12, ref # 4)and

a tilt coil (See detailed description [0028]; Figs. 12, ref # 5,6),

the “laminate” structure is disposed within the gap (See detailed description [0028]; Figs. 11,12)

an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens (See [0031]-[0038]; Figs. 11-13, 16)

Ikegame fails to disclose that the objective lens is disposed outside of the gap in which the laminate structure is disposed.

However this feature is well known in the art and is evidenced by Izuka which discloses an objective lens drive apparatus configured to be used in an optical pickup, comprising a magnetic circuit comprising a first and second magnets separated from one another by a gap, a coil unit comprising a “laminate” structure including, the “laminate” structure is disposed within the gap, and an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens the objective lens is disposed outside of the gap in which the laminate structure is disposed (see Figs. 9,10)

It would have been obvious to one of ordinary skill in the art at the time of the invention to dispose the objective lens outside of the gap, in order to that the movable center of gravity may be accurately set to assure stable driving displacement of the objective lens, to provide an objective lens driving device wherein the laminate structure can be mounted and assembled easily and accurately for enabling stable driving and displacement of the objective lens, to follow up accurately with the error signals, and further the consumption of the power necessary for displacing the objective lens and heat evolution during driving of the objective lens may be suppressed in order to assure stable operation of the semiconductor laser as the light source radiating a light beam on the

optical disc via the objective lens and in order to enable the recording and/or reproduction of information signals with excellent characteristics, as taught by Izuka.

Regarding claims 2, 23 and 28, the combination of Ikegame and Izuka show that (see Ikegame) the magnetic circuit comprises pairs of magnets (See Detailed description [0028]; Figs. 11, 12, ref#8,9)

Regarding claims 3, 24 and 29, the combination of Ikegame and Izuka show that (see Ikegame) the coil unit comprises a plurality of printed circuit boards, and the focus coil, the tracking coil and the tilt coil are separately disposed on the printed circuit boards (See Detailed description [0028]; Figs. 11, 12, ref# 23,24)

Regarding claim 4, the combination of Ikegame and Izuka show that (see Ikegame) the coil unit comprises a plurality of first and second printed boards, and the focus coil and the tracking coil are disposed on the first printed board and the tilt coil is disposed on the second printed board (See Detailed description [0028]; Figs. 11, 12, ref# 23,24)

Regarding claim 5, the combination of Ikegame and Izuka show that (see Ikegame) the coil unit comprises a plurality of first and second printed boards, and the focus coil and the tilt coil are mounted on the first printed board and the tracking coil is mounted on the second printed board (See Detailed description [0028]; Figs. 11, 12, ref# 23,24)

Regarding claim 6 and 31, the combination of Ikegame and Izuka show that (see Ikegame) the coil unit comprises only one focus coil, and even number of the tracking coils and two of the tilt coils (See detailed description [0028]; Figs. 11,12) and wherein the magnet is magnetized in two polarities in a focus direction (See Detailed description [0033]; Figs. 11, 12, 13 ref# 8,9)

Regarding claims 7 and 26, the combination of Ikegame and Izuka show that (see Ikegame) the coil unit comprises an even number of focus coils, only one tracking coil and two tilt coils (See detailed description [0028]; Figs. 11,12), and wherein the magnets are magnetized in two polarities in a tracking direction (See Detailed description [0033]; Figs. 11, 12, 13 ref# 8,9)

Regarding claim 22, Ikegame discloses an objective lens drive apparatus used in an optical pickup to detect the inclination of an optical disk to adjust the inclination of an objective lens in accordance with an inclination signal of the optical disk (See Abstract), comprising:

- a magnetic circuit comprising a first and second magnets separated from one another by a gap (See Detailed description [0033]; Figs. 11, 12, ref# 8,9); and

- a coil unit comprising a “laminated” structure (See detailed description [0028]; Figs. 12 ref# 23,24) including

 - a focus coil (See detailed description [0028]; Figs. 12, ref # 3),

 - a tracking coil (See detailed description [0028]; Figs. 12, ref # 4)

 - and a tilt coil (See detailed description [0028]; Figs. 12, ref # 5,6),

the laminate structure is disposed within the gap (See detailed description [0028]; Figs. 11,12)

an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens (See [0031]-[0038]; Figs. 11-13, 16)

wherein a focus servo is configured to be executed by supplying currents respectively to a plurality of the focus coils due to the sum of drive forces generated in the plurality of focus coils, and wherein an inclination adjustment of the objective lens is configured to be executed by generating moment around the center of gravity of a movable part due to the difference between the drive forces (See detailed description [0032]-[0037]; Fig. 13)

Ikegame fails to disclose that the objective lens is disposed outside of the gap in which the laminate structure is disposed.

However this feature is well known in the art and is evidenced by Izuka which discloses an objective lens drive apparatus configured to be used in an optical pickup, comprising a magnetic circuit comprising a first and second magnets separated from one another by a gap, a coil unit comprising a "laminate" structure including, the "laminate" structure is disposed within the gap, and an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens the objective lens is disposed outside of the gap in which the laminate structure is disposed (see Figs. 9,10)

It would have been obvious to one of ordinary skill in the art at the time of the invention to dispose the objective lens outside of the gap, in order to that the movable

center of gravity may be accurately set to assure stable driving displacement of the objective lens, to provide an objective lens driving device wherein the laminate structure can be mounted and assembled easily and accurately for enabling stable driving and displacement of the objective lens, to follow up accurately with the errors signals, and further the consumption of the power necessary for displacing the objective lens and heat evolution during driving of the objective lens may be suppressed in order to assure stable operation of the semiconductor laser as the light source radiating a light beam on the optical disc via the objective lens and in order to enable the recording and/or reproduction of information signals with excellent characteristics, as taught by Izuka.

Regarding claims 25 and 30, the combination of Ikegame and Izuka show that (see Ikegame) the coil unit comprises a printed circuit board, and the focus coil and the tracking coil are disposed on the printed circuit board (See Detailed description [0028]; Figs. 11, 12, ref# 23,24)

Regarding claim 27, Ikegame discloses an objective lens drive apparatus configured to be used in an optical pickup to detecting the inclination of an optical disk to adjust the inclination of an objective lens in accordance with an inclination signal of the optical disk (See Abstract), comprising:

a magnetic circuit comprising a first and second magnets separated from one another by a gap (See Detailed description [0033]; Figs. 11, 12, ref# 8,9); and

a coil unit comprising a coil unit comprising a "laminate" structure (See detailed description [0028]; Figs. 12 ref# 23,24) including

a focus coil (See detailed description [0028]; Figs. 12, ref # 3),
 a tracking coil (See detailed description [0028]; Figs. 12, ref # 4)
 and a tilt coil (See detailed description [0028]; Figs. 12, ref # 5,6),
 the laminate structure is disposed within the gap (See detailed description [0028];
 Figs. 11,12)

an objective lens connected to the laminate structure such that movement of the
 laminate structure results in a corresponding movement of the objective lens (See [0031]-
 [0038]; Figs. 11-13, 16)

wherein a tracking servo is configured to be executed by supplying currents
 respectively to a plurality of the focus coils due to the sum of drive forces generated in
 the plurality of focus coils, and wherein an inclination adjustment of the objective lens is
 configured to be executed by generating a moment around a center of gravity of a
 movable part due to a difference between the drive forces (See detailed description
 [0032]-[0037]; Fig. 13)

Ikegame fails to disclose that the objective lens is disposed outside of the gap in
 which the laminate structure is disposed.

However this feature is well known in the art and is evidenced by Izuka which
 discloses an objective lens drive apparatus configured to be used in an optical pickup,
 comprising a magnetic circuit comprising a first and second magnets separated from one
 another by a gap, a coil unit comprising a “laminate” structure including, the “laminate”
 structure is disposed within the gap, and an objective lens connected to the laminate
 structure such that movement of the laminate structure results in a corresponding

movement of the objective lens the objective lens is disposed outside of the gap in which the laminate structure is disposed (see Figs. 9,10)

It would have been obvious to one of ordinary skill in the art at the time of the invention to dispose the objective lens outside of the gap, in order to that the movable center of gravity may be accurately set to assure stable driving displacement of the objective lens, to provide an objective lens driving device wherein the laminate structure can be mounted and assembled easily and accurately for enabling stable driving and displacement of the objective lens, to follow up accurately with the errors signals, and further the consumption of the power necessary for displacing the objective lens and heat evolution during driving of the objective lens may be suppressed in order to assure stable operation of the semiconductor laser as the light source radiating a light beam on the optical disc via the objective lens and in order to enable the recording and/or reproduction of information signals with excellent characteristics, as taught by Izuka.

Regarding claim 42, Ikegame discloses an objective lens drive apparatus for use in an optical pickup (See Abstract), comprising:

a magnetic circuit comprising a first and second magnets separated from one another by a gap (See Detailed description [0033]; Figs. 11, 12, ref# 8,9);

a coil unit comprising a "laminate" structure (See detailed description [0028]; Figs. 12 ref# 23,24) including

a focus coil (See detailed description [0028]; Figs. 12, ref # 3),

a tracking coil (See detailed description [0028]; Figs. 12, ref # 4)

and a tilt coil (See detailed description [0028]; Figs. 12, ref # 5,6),

the laminate structure disposed within the gap (See detailed description [0028]; Figs. 11,12)

and a lens configured to be adjusted in a focusing direction, a tracking direction, and a tilt direction by the magnetic circuit and coils is provided in a lens holder (See detailed description [0028]; Figs. 11,12,13)

Ikegame fails to disclose that the objective lens is disposed outside of the gap in which the laminate structure is disposed.

However this feature is well known in the art and is evidenced by Izuka which discloses an objective lens drive apparatus configured to be used in an optical pickup, comprising a magnetic circuit comprising a first and second magnets separated from one another by a gap, a coil unit comprising a "laminate" structure including, the "laminate" structure is disposed within the gap, and an objective lens connected to the laminate structure such that movement of the laminate structure results in a corresponding movement of the objective lens the objective lens is disposed outside of the gap in which the laminate structure is disposed (see Figs. 9,10)

It would have been obvious to one of ordinary skill in the art at the time of the invention to dispose the objective lens outside of the gap, in order to that the movable center of gravity may be accurately set to assure stable driving displacement of the objective lens, to provide an objective lens driving device wherein the laminate structure can be mounted and assembled easily and accurately for enabling stable driving and displacement of the objective lens, to follow up accurately with the error signals, and further the consumption of the power necessary for displacing the objective lens and heat evolution during driving of the objective lens may be suppressed in order to assure stable

operation of the semiconductor laser as the light source radiating a light beam on the optical disc via the objective lens and in order to enable the recording and/or reproduction of information signals with excellent characteristics, as taught by Izuka.

Regarding claims 49,51,53 and 55, In regard to the features process of making “focus, tilt and tracking coils are disposed on a plurality of circuit boards, the plurality of circuits boards **forming** the “lamine” structure with one another.

A “**product by process**” claim is directed to **the product per se, no matter how actually made**, see In re Hirao, 190 USPQ 15 at 17 (footnote 3, CCPA, 5/27/76); In re Brown, 173 USPQ 685 (CCPA 5/18/72); In re Luck, 177 USPQ 523 (CCPA, 4/26/73); In re Fessmann, 180 USPQ 324 (CCPA, 1/10/74); In re Thorpe, 227 USPQ 964 (CAFC, 11/21/85).

The patentability of the final product in a “product by process” claim must be determined **by the product itself and not the actual process** and an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not.

Furthermore, the combination of Ikegame and Izuka show that (see Ikegame) the focus, tilt and tracking coils are disposed on a plurality of circuit boards, the plurality of circuits boards forming the “lamine” structure with one another (See detailed description [0028]; Figs. 11,12)

Regarding claims 50,52,54 and 56, the combination of Ikegame and Izuka show that (see Ikegame) only one laminate structure including the focus, tracking and tilt coils is disposed in the gap (See Fig. 11,12)

Response to Arguments

2. Applicant's arguments with respect to claims 1-7, 22-31, 42 and 49-56 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L. Ortiz-Criado whose telephone number is (571) 272-7624. The examiner can normally be reached on Mon.-Thu.(8:30 am - 6:00 pm),Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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